CLAIMS

What is claimed is:

1.   An audio distortion processing system comprising:

a first processing unit adapted to be in communication with an audio source wherein said first processing unit controls a plurality of parameters;

a plurality of inputs in communication with said first processing source, said plurality of inputs affecting said plurality of parameters;
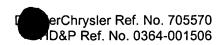
a power amplifier in electrical communication with said first processing unit for receiving an output signal of said first processing unit, said power amplifier selectively generating a clipping signal, said power amplifier adapted to be in communication with at least one speaker;

a second processing unit in electrical communication with said power amplifier and said first processing unit for receiving said clipping signal from said power amplifier and sending a control signal to said first processing unit; and

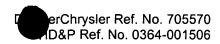wherein said control signal initiates at least one of either:

an incremental reduction in a level of a first parameter of said plurality of parameters until one of either said clipping signal recedes or a reduction limit of said first parameter is achieved and incremental reduction in a level of a second parameter of said plurality of parameters if a reduction limit of said first parameter is achieved and said clipping signal persists; or

an incremental recovery of an original level of said second parameter if said clipping signal is not detected and an incremental recovery of an original level of said first parameter ensues if said original level of said second parameter is recovered and said clipping signal is not detected.

2.   The audio distortion processing system of claim 1, wherein said reduction limit of said first parameter is a function of said first input.

3.   The audio distortion processing system of claim 1, wherein said reduction limit of said first parameter is equal to one half of said first input.

4.   The audio distortion processing system of claim 1, wherein said reduction limit of said second parameter is a function of said reduction limit of said first input.

5.   The audio distortion processing system of claim 1, wherein said reduction limit of said second parameter is equal to the difference between a maximum reduction value of said second parameter and said reduction limit of said first parameter.

6.   The audio distortion processing system of claim 1, wherein said first parameter is bass and said first input is operator selectable bass boost.

7.   The audio distortion processing system of claim 1, wherein said second parameter is volume and said second input operator selectable volume level.

8.   A method for controlling distortion in an audio system having first and second parameters wherein each of said parameters is a function of an operator input, said method comprising the steps of:

determining a reduction limit of said first parameter;

determining a reduction limit of said second parameter;

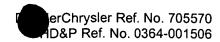detecting a clipping signal in said audio system;

incrementally reducing a level of said first parameter until one of either said clipping signal recedes or said reduction limit of said first parameter is achieved;

incrementally reducing a level of said second parameter if said reduction limit of said first parameter is achieved and said clipping signal persists; and

incrementally recovering an original level of said second parameter if said clipping signal is not detected and incrementally recovering an original level of said first parameter if said original level of said second parameter is recovered and said clipping signal is not detected.
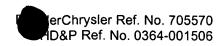
9.   The method of claim 8, wherein said first parameter is a bass parameter and said second parameter is a volume parameter.

10.   The method of claim 8, wherein said reduction limit of said first parameter is a function of an operator input.

11.   The method of claim 8, wherein said reduction limit of said first parameter is equal to one half of a variable first parameter level.

12.   The method of claim 8, wherein said reduction limit of said second parameter is a function of said reduction limit of said first parameter.

13.   The method of claim 8, wherein said reduction limit of said second parameter is equal to the difference between a maximum reduction limit of said second parameter and said reduction limit of said first parameter.

14.   An audio system comprising:

a first processing unit adapted to be in communication with an audio source wherein said first processing unit controls a plurality of parameters;

a plurality of inputs in electrical communication with said first processing source, said plurality of inputs affecting said plurality of parameters;

a power amplifier in electrical communication with said first processing unit for receiving an output signal of said first processing unit, said power amplifier selectively generating a clipping signal, said power amplifier adapted to be in communication with at least one speaker;

a second processing unit in electrical communication with said power amplifier and said first processing unit for receiving said clipping signal from said power amplifier and sending a control signal to said first processing unit; and
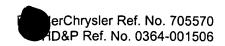
wherein said control signal initiates at least one of either:

an incremental reduction in a level of first and second parameters of said plurality of parameters until one of either said clipping signal recedes or a reduction limit of said first and second parameters is achieved; or

an incremental recovery of an original level of said first and second parameters if said incremental reduction had previously occurred and said clipping signal is not detected;

wherein said reduction limit of said first parameter is a function of said first input and said reduction limit of said second parameter is a function of said reduction limit of said first parameter.

15.   The audio system of claim 14, wherein said reduction limit of said first parameter is equal to one half of a value of said first input.

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16.   The audio system of claim 14, wherein said reduction limit of said second parameter is equal to the difference between a maximum reduction limit value of said second parameter and said reduction limit value of said first parameter.

17.   The audio system of claim 14, wherein said incremental reduction of said first parameter proceeds until one of either said clipping signal recedes or said reduction limit of said first parameter is achieved and incremental reduction of said second parameter ensues if said reduction limit of said first parameter is achieved and said clipping signal persists.

18.   The audio system of claim 14, wherein said incremental recovery of said original level of said second parameter proceeds if said clipping signal is not detected and said incremental recovery of said original level of said first parameter ensues if said original level of said second parameter is recovered and said clipping signal is not detected.